

USAWC STRATEGY RESEARCH PROJECT

THE STRATEGIC IMPACT OF URBANIZATION IN 2020

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## ABSTRACT

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The world's population is expected to increase by 2 billion by 2030, with most of the increase being absorbed into urban areas. In that time the urban population of the developing world is expected to double. The tactical and operational difficulties of urban combat are well documented. This paper assesses the likely security environment in 2020 and analyzes the impact of urbanization at the strategic level on the diplomatic, informational, military and economic instruments of power.



## TABLE OF CONTENTS

ABSTRACT .....	III
LIST OF TABLES .....	VII
THE STRATEGIC IMPACT OF URBANIZATION IN 2020.....	1
SCOPE .....	1
TERMS .....	2
<b>THE SCALE OF FUTURE URBANIZATION.....</b>	<b>2</b>
GLOBAL TRENDS .....	3
CITY ANALYSIS .....	4
REGIONAL VARIATION .....	5
<b>FUTURE SECURITY ENVIRONMENT.....</b>	<b>7</b>
ASSUMPTIONS .....	9
<b>DIPLOMACY.....</b>	<b>10</b>
<b>INFORMATION.....</b>	<b>12</b>
<b>THE MILITARY INSTRUMENT .....</b>	<b>13</b>
<b>ECONOMIC POWER .....</b>	<b>16</b>
<b>CONCLUSIONS.....</b>	<b>17</b>
ENDNOTES.....	19
BIBLIOGRAPHY .....	21



## LIST OF TABLES

TABLE 1. LARGE CITY DISTRIBUTION 2015.....	5
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## THE STRATEGIC IMPACT OF URBANIZATION IN 2020

The worst policy is to attack cities. Attack cities only when there is no alternative.

—Sun Tzu

Over the next 30 years the world's population is expected to increase by some 2 billion, with most of the increase being absorbed as urban dwellers. Cities will grow larger and more numerous, particularly in the developing world. Conditions for some people will improve as they find shelter, food and work. For the lucky, city life will mean luxury, wealth, opportunity and the good life. For many, however, the result will be overcrowding, hunger, disease and fear. The close juxtaposition of wealth and poverty, of smart suburb and shanty town, of competing cultural and ethnic backgrounds and of the law-abiding and the lawless will inevitably be a cause of friction and conflict. This was ever the case since the start of urban living and the city state, but the coming decades will see the largest growth of urban populations in history.

This scale of urbanization will have an inevitable effect on world order and on the way that nations do business. International relationships will change. This paper will examine the impact of urbanization at the strategic level, in order to have a better understanding of the implications for policy setters and strategic planners, particularly those of the United States and Europe.

Sun Tzu's<sup>1</sup> dictum about not attacking cities is oft quoted, but usually out of context. It is not an isolated statement abjuring urban operations but forms the final part of an articulation of offensive strategy, in which he asserts that the best policy is to take a state intact; to capture an army is better than destroying it; to subdue the enemy without fighting is the acme of skill and thus attacking the enemy's strategy is of extreme importance. The next best policy is to disrupt his alliance, then to attack his army and as a last resort, to attack his cities. Cities are costly to attack and wasteful of effort – he advises seeking other strategies. As current events in Baghdad and Basra emphasize, urbanization is undoubtedly a strategic issue, one that will continue to develop in complexity and importance.

### SCOPE

This paper will start by examining the scale of future urbanization. It will then, through the lens of the likely future security environment, assess its strategic impacts using a mix of two analytical models. The first draws on the instruments of national power, viz. diplomacy, information, military force and economic strength. To this will be added elements of the STEPEM paradigm: Societal and Cultural, Technical, Economic, Physical, Ethical, Legal and Moral and Military. It will draw conclusions and make recommendations about future policy.

Although the urban data on which the paper draws makes predictions that cover the next 30 years, as its title indicates the paper will target the 2020 timeframe. This is far enough off to look beyond today's military and economic programming horizons, which typically look 8 to 10 years out, whilst remaining sufficiently close so as not to fall off the radar screen altogether. 2020 lies within the time span of the U.S. Army and Department of Defense transformation initiatives and is the focus of much of the UK's developmental thinking. This future focus, although drawing on respected academic work, is inevitably based on assumptions and best guesses. Any assessment of the future is just that, an assessment whose accuracy will only become apparent when today's future becomes tomorrow's present and, eventually, its past. As with any assumptions, futurist predictions ought to be challenged and, in time, verified or discarded as necessary.

## TERMS

For the sake of clarity, the terms 'city' and 'strategic' as used here should be explained. In discussing urbanization, city will be used to describe all urban agglomerations whose organization is deliberate, even where layout, government and social structure may seem to be chaotic. Thus a city is distinct from a rural collection of dwellers, where there may be a degree of urban terrain, housing and infrastructure but the population is small and rurally focused. Cities are not defined by any formal geographic, administrative, political or historical boundary, but rather by the size of contiguous urban sprawl, which may encompass a number of different named cities and townships, each with their own local government.

Strategic is used in the sense articulated by Art Lykke<sup>2</sup>, namely that strategy is the pursuit, protection or advancement of national interests through the application of the instruments of power, viz. political and diplomatic, economic, military and informational. Thus it is not used to represent plans, planning or planners, but appertains specifically to the level of national decision-making.

## THE SCALE OF FUTURE URBANIZATION

Undoubtedly one of the major changes taking place in the distribution of the world population over the past two centuries is the concentration of large numbers of people in relatively small, highly urbanized areas known as urban agglomerations.

—Population Division of the UN

The most detailed source of data of world populations, urban and rural, is the World Urbanization Prospects report issued by the Population Division of the United Nations (UN). The

latest revision<sup>3</sup>, published in 2002, is probably the most comprehensive analysis available. Based on aggregations of national census information as well as the UN's own research, it sets out to chart trends in urban population figures across the globe. It is a rich and lengthy source made all the more valuable by its attempt at using quantitative analysis as a basis for predictions. It is, however, only as good as the information it can cull from the world's nations. It is the first to admit that some of its data is not reliable; in particular some of the detail in the assessment of today's city populations may lack robustness. This lack of reliability causes some<sup>4</sup> to doubt its value. However, even were some of its figures unintentionally inflated, the trends that are exposed are still indicative of the sort of future we can expect.

For this study, the UN divides the world into six regions; of these North America and Europe are categorized as developed, whilst Latin America and the Caribbean (combined into a single region), Asia and Africa are described as developing. Oceania is considered to straddle both categories. Forty nine countries are listed as least developed, of which 34 are in Africa, 9 in Asia, one in the Caribbean and 5 in Oceania. The African figure represents nearly 3 out of every 5 nations in the region. Of today's major hotspots, Europe has the Balkans, while Asia includes the Caucasus, the Middle East and Afghanistan.

## GLOBAL TRENDS

Virtually all of the world's population growth from now to 2030 (6.1B increasing to 8.3B) will concentrate in urban areas, taking the urban population from 2.9B to 5.0B. More specifically, this increase will be absorbed by the cities of the less developed regions, whose population will rise from 1.9B to 3.9B. In 2000 47% of the world's population lived in cities. By 2030 that figure will rise to 60%, with the proportion of the world's inhabitants living in urban areas expected to pass the 50% mark for the first time in 2007.

Between 2000 and 2030 the world's urban population is expected to grow by 1.8% per year; in the same period the overall population will increase by an average of only 1%. At that rate the urban population will double in numbers in 38 years. In less developed regions the urban population is growing more quickly, at about 2.3% annually, which will result in a doubling of their urban population in only 29 years. In contrast, the world's rural population figures will remain nearly stable over the next 30 years, growing by only 0.1B to 3.3B, a rate of 0.1%.

The number of rural dwellers in less developed regions rose over the last 50 years to 2.9B, just over doubling. That rate of increase will sharply reduce over the next 20 years, with the rural population only rising to 3.1B; thereafter it is expected to decline, falling to 3B by 2030, only 98M more than today.

## CITY ANALYSIS

In assessing the size of cities, urban agglomeration has been used as the basis for measurement, rather than formal city boundaries. Thus the population of Tokyo includes the residents of the contiguous cities of Chiba, Kawasaki and Yokohama. City sizes are categorized as over 10 million inhabitants, known as mega-cities; over 5 million; 1 to 5 million; 500,000 to 1 million; and under 500,000.

In 2000 3.7% of the world population lived in mega-cities. The most populous were Tokyo (26.5M), Mexico City (18.3M), Sao Paulo (18.3M) and Mumbai (Bombay) (16.5M). In 2015 Tokyo is expected still to be at the head of the list, with 27.2M inhabitants, with Dhaka (22.8M), Mumbai (22.6M), and Sao Paulo (21.2M) moving into the next three places. These metropolitan areas vary in size and therefore population density. Some are very dense: the area of Cairo, with 10M inhabitants today, is almost exactly the same as the District of Columbia which is home to just over 0.5M residents and a daily transient population of about 4M<sup>5</sup>. At 175 square miles these are both just larger than Mumbai with a current population of 18.1M. Others such as Lagos (13.4M in 1290 square miles) are less densely populated than Los Angeles (13.3M in 470 square miles).

The spread of urban populations over the next 15 years between mega-cities, large cities and smaller cities is revealing. The rate of increase in the proportion living in mega-cities (3.7% rising to 4.7%) is marginally higher than in large cities of over 5M (2.8% to 3.7%). This equates to 8.4% of the world's population living in cities of over 5M by 2015. In contrast, 27.1% of the total population will live in cities of less than 1M inhabitants by 2015, up from 24.8% today. Even greater contrast emerges between the developed and less developed regions; in the former 43% of people will live in smaller cities by 2015 (up from 42% today) compared to only 24% of the less developed world (20% today). Thus the increasing trend towards mega-cities has not resulted in a slowing down or decreases of numbers inhabiting large or small cities.

Over the next 15 years large cities will absorb 21 % of the annual increase in urban dwellers and small cities 50%. In both cases it is the cities of the less developed regions that will absorb most of the increase, with the largest cities accounting for 20% of the increase and the smaller ones 48%. It should be noted that the increase in the proportion of the population living in the largest cities is mostly a result of the increasing numbers of such cities rather than a development of existing agglomerations. In 2000 there were 41 cities of over 5M; by 2015 it is expected that there will be 59, with 17 of the 18 new large cities in the less developed regions<sup>6</sup>.

Large agglomerations do not necessarily experience fast population growth. Some of the fastest growing cities have relatively small populations, and as population size increases,

growth rates tend to decline. Annual growth rates in the mega-cities over the last 25 years has been at about the 3% mark, less Dhaka at 6.9% and Lagos at 5.6%. Over the next 15 years most will grow at less than 1% per year with only Lagos, Dhaka, Karachi and Jakarta growing at more than 3%. Table 1 shows the distribution by sub-region of mega and large cities in 2015:

Sub-region	Mega-cities in 2015	Cities over 5M in 2015
North America	USA (2)	Canada (1) USA (1)
Eastern Africa		Ethiopia (1)
Middle Africa		Dem Rep of the Congo (1)
Northern Africa	Egypt (1)	Egypt (1)
Southern Africa		
Western Africa	Nigeria (1)	Côte D'Ivoire (1)
Eastern Asia	China (3) Japan (2)	China (5) Republic of Korea (1)
South-central Asia	Bangladesh (1) India (4) Pakistan (1)	Afghanistan (1) Bangladesh (1) India (4) Iran (1) Pakistan (1)
South-eastern Asia	Indonesia (1) Philippines (1) Thailand (1)	Indonesia (1) Myanmar (1) Vietnam (2)
Western Asia	Turkey (1)	Iraq (1) Saudi Arabia (1)
Eastern Europe		Russian Federation (2)
Northern Europe		United Kingdom (1)
Southern Europe		
Western Europe		France (1) Germany (1)
Caribbean		
Central America	Mexico (1)	Colombia (1) Guatemala (1)
South America	Argentina (1) Brazil (2)	Brazil (1) Chile (1) Peru (1)

TABLE 1. LARGE CITY DISTRIBUTION 2015

## REGIONAL VARIATION

Although it is the least urbanized region in percentage terms, Asia at 1.4B has 0.2B more urban dwellers than North America, Europe and Latin America / Caribbean combined. By 2030 Asia and Africa will each have more people living in cities than any of the other regions of the world. The two key factors in the high urban growth rate anticipated in the less developed

regions are the migration from rural to urban dwelling and the absorbing of rural settlements into cities. The net effect on the rural population in these areas is a steady decline in numbers similar to that experienced in the developed regions since 1950.

The rapid increase in the world's urban population, together with a steady reduction in its rural dwellers, has led to a major redistribution of population. Relatively speaking, the less well developed regions of the world will have about the same density of urban living as the better developed regions did 50 years ago, some 55%. At that time the urban population of the more developed regions exceeded that of the less developed ones by nearly half, accounting for 60% of the world's urban inhabitants but only 32% of the total population. By 1975 the figures were reversed and the difference continued to grow rapidly so that in 2000 the figures showed the less developed urban population as more than double that of the developed world, with the less developed world accounting for 68% of the urban and 80% of the total populations. By 2030 these proportions are expected to reach 79% and 85%, leaving the developed world with only 21% of the urban population and 15% of the total. More tellingly, in the early 1950s the urban areas of the less developed world absorbed around 55% of the annual increment in urban population; by the turn of the century that figure rose to 91% and by 2030 it will reach 97%. Put simply, as the world's population gets ever bigger, almost all the increase will live in the cities of the less developed regions.

Between 1950 and 2000 Africa's urban population increased 9 fold, Asia and Latin America / Caribbean 5 fold, North America and Oceania more than double and even Europe, with low growth rates nearly doubled. However these bald figures conceal a significant shift in the proportionate share of city dwellers. Africa climbed from 4.3% to 10.4%, Asia from 32.5% to 47.5%, and Latin America / Caribbean from 9.2% to 13.7%. North America's and Europe's share fell; the former from 14.6% to 8.4%, the latter from 38.3% to 19.2%. Over the next 30 years the distribution will become further accentuated with Africa at 15.7%, Asia at 53.3%, Latin America down to 12.4%, North America down to 6.4% (even though its urban population will grow by 30M souls) and Europe down to 11.7%.

It is interesting to note how the areas from which NATO has drawn its membership (North America, West, North and South Europe) have changed. In 1950, just after the formation of the Alliance, they accounted for 41% of the world's urban and 10% of the rural populations. Today those figures have fallen to 20% and 5%, and in by 2030 are expected to reach 13% and 4%. In terms of influence proportional to world population, it can perhaps be anticipated that, without enlargement, the proportion of the world's inhabitants to whom NATO will have any direct relevance will drastically shrink.

## **FUTURE SECURITY ENVIRONMENT**

No paper that aims to draw conclusions about the future can do so without making assumptions about the way the world will be. As Charles Dick so succinctly said, predicting the course of two decades is a “dodgy business”<sup>7</sup>. Nevertheless it is important to make some predictions, recognize them as the assumptions that they are, and use them to frame any subsequent discussion. This chapter will not attempt to conduct a full predictive analysis from first principles; rather it will draw on work done to underpin the U.S. Department of Defense’s 2001 Quadrennial Defense Review (QDR)<sup>8</sup> as well as some of the material supporting the U.K. Ministry of Defence’s Strategic Defence Review (SDR) of 1998<sup>9</sup> and its New Chapter<sup>10</sup>, published in 2002 and directly resulting from the September 11th 2001 attacks in New York and Washington, D.C.

In its assessment of the likely future security environment to the year 2025 for the QDR<sup>11</sup>, the National Defense University working group surveyed the available literature to identify areas of consensus and debate. The distillation of a wide range of views, together with the approach of assembling convergent and divergent views, gives this survey considerable weight. A total of 16 areas of accord were articulated, in the categories of threat, military technology and opposing strategies.

From the U.S threat perspective, it is broadly agreed that there will not be a rival ideology, nor will there be a rival military coalition. No global military competitor will emerge and although there will be economic competitors, the competition will not lead to war. There will be regional powers that will challenge the U.S militarily, but there is some disagreement over which ones they may be. More states will fail and there will be an increased number of non-state threats to security. On the technology front, advanced military technology will become more diffuse. Commercial sources will be able to supply significant operational intelligence to those that are willing to pay. Whilst other nations will pursue a revolution in military affairs, the U.S. will retain the overall lead in military technology, with any surprise innovation likely to be developed by the U.S. or one of its allies.

Opposing strategies will have to deal with continuing U.S. control of the seas and the air. Regional powers will use anti-access and area denial strategies, while any large-scale combat against U.S. forces is likely to include the use of WMD. The U.S. homeland itself will become increasingly vulnerable to asymmetric attack. The last commonly agreed assumption is that information warfare will become increasingly important.



Areas of divergence encompass ideas about the nature of future conflict, threats to the U.S. and views on opposing strategies. These are worth exploring, for some of the more pessimistic views have a bearing on the impact of future urbanization.

When considering the nature of conflict, there is a debate on the likelihood of two major theatre wars (MTW) occurring simultaneously, with 'unlikely' facing off against 'a possibility'. Whilst some argue that information operations and precision weapons will make warfare 'less lethal', others hold that future wars will be more brutal with more civilian casualties. For some, too, chaos in the littorals or panic in a city are more likely contingencies than MTW, a view not shared by those for whom MTW remains the primary threat to U.S. security. Lastly, space is either a theatre of conflict of the future, or it will remain but a conduit of information and not a combat theatre. As for technology, divergence exists between those for whom the emergence of a near-peer competitor is inevitable, demanding preparation today, and those who see the act of preparing for a near-peer competitor as the catalyst that will create military competition. The security of overseas bases is also a point of contention, centering on the capability of the U.S. to defend them. Dissenting views about opposing strategies focus on anti-access capability, the prominence of the nuclear deterrent and the ability of conventional forces to deter terrorism or non-state actors.

The resulting consensus scenario constructed by the working group required U.S. military forces in 2001 – 2025 to prepare for military challenge by a regional competitor and attempts by such a competitor to attack the U.S. homeland by asymmetric means; for use of anti-access and area denial strategies and the use of WMD as part of such anti-access operations; for involvement in failing states and in response to non-state threats; for operations in urban terrain and under "chaotic" conditions, for some, but not all, of the force; for continual diffusion of military technology to potential competitors and non-state actors; and for a high level of information warfare.

The analysis also proffers a list of events against which, although unlikely, the U.S. should hedge: an eventual military near-peer competitor, a potential alliance of regional competitors, attempts to leapfrog into space warfare, collapse of a key ally or regional support, and a trend towards a world of warriors. This list is of particular interest in a strategic review, for it indicates a number of non-military lines of operation aimed at maintaining U.S. military superiority for many years to come.

The British analysis differs in nature, accessibility and choice of language. Although both the SDR and its New Chapter included analysis of the future security environment, the clearest statement of deductions on which future policy and capability will be based is found in the paper

issued in 2000, "The Future Strategic Context for Defence"<sup>12</sup>. All postulate a future closely aligned with U.S. thinking but use a different construct and style to arrive there. By examining physical, technical, economic, social and cultural, moral and legal, political and military factors, the analysis draws a number of deductions, some of which are particularly relevant to the consideration of the impact of future urbanization.

Acknowledging predictions of population and urban growth, potential causes of conflict are identified. Pressure on water and land resources, especially in the Middle East and Africa, will grow and exacerbate existing tensions and instabilities. If present conditions continue, by 2025 two thirds of the world's population will be living in 'water stressed' conditions that will prompt population migration. This may overload the stressed economies of recipient states and inflame ethnic or cultural tension. Western contribution to global warming may be perceived as a primary source of a problem, the effects of which are being borne by developing countries.

Consideration of non-state actors has deepened since the September 11 2001 attacks. Together with concerns of proliferation of nuclear, chemical and biological weapons, the focus is strongly on organizations such as Al Qu'aida, on rogue states such as North Korea and on the increasing number of failing or failed states. This uncertainty, not of the existence of threat but of its nature and timing, adds complexity to the already difficult task of balancing the mission and resources of national armed forces. This difficulty will increase not decrease over time, as more threats are discovered but few if any are removed from the list.

Transnational criminal organizations will continue to threaten national security. The Big Six<sup>13</sup> - Italian criminal enterprises, the Russian Mafiya, the Japanese Yakuza, the Chinese Triads, the Columbian Cartels and the Mexican (Drug) Federation – are deeply rooted in many of the world's largest cities. Their effect on national economies can be drastic, especially within nascent democracies where they ruthlessly exploit the transition period away from centralized control.

## ASSUMPTIONS

A number of assumptions, both explicit and implicit, fall out of these analyses:

- First, the nation state will continue to be the basis of the international political structure, economic globalization and increasing numbers of non-state actors notwithstanding, although regional boundaries will become increasingly blurred. Over the next twenty years the world's system of governance will not change dramatically or drastically, but will continue to evolve in response to friction and perceived threat.

- Secondly, no major competitor to the U.S. will emerge, military or economic. There will be challenges in both arenas, from individual states, regional groupings and combinations of the two. But, essentially, the world will continue to be uni-polar, with only one super-power. At all but the most local level, political and military competition will be for influence rather than a struggle for territory.
- Causes of tension, friction, clash or conflict will be varied, but in one sense or other will have a root in the difference between those that have and those who have not. Whether water shortage, economic exclusion, energy availability, nationalism or simply struggle for power create the spark, the permanent tensions of unequal distribution, cultural mistrust, ethnic dislike and fear will fan the flame. This will be exacerbated in conditions of dense population already found in many cities and likely to worsen.
- Warfighting will continue to be the essential skill of national armed forces, particularly those of the U.S. and the principal second ranked powers and will remain the most demanding and defining capability. Capabilities based on warfighting render an ability to contribute to other types of operation; the reverse is not true.
- The likelihood of operating in an urban environment will sharply increase. This does not only imply that warfighting will have to develop a greater urban focus; it is an assumption about the whole panoply of military tasks. Crime, particularly organized and transnational, will be a significant factor influencing security concerns.

## **DIPLOMACY**

Diplomacy and politics are recognized together as a major instrument of national power. Social factors are inextricably linked with both, defining as they do the character, characteristics, desires, capabilities and vital interests of any group, tribe or nation. Increasing urbanization changes social balance and aspiration. The change over time from rural economies to urban based industrial economies changed the social structure and style of living in Britain, America and most of the developed world during the 19<sup>th</sup> and 20<sup>th</sup> centuries. But from the era of Greek City States on, power and urbanization have developed hand in hand. Diplomacy and national politics play out in the capital cities of the world. Seats of government and of economic power are most often to be found in the same cities, although there are notable exceptions such as Washington D.C. and New York, and Berlin and Frankfurt. Embassies and the Diplomatic Corps follow. Official political opposition, where permitted, is usually headquartered in these same cities, although in tribal based societies such as those of Zambia or Zimbabwe, they may find their strength in the capital of their tribal heartland. Multi-national negotiation in other

international centers of power such as the UN, NATO and the EU are also conducted by accredited diplomats, using the same conventions, in their roles as official representatives of their nations' heads of state. National representation is also found, through recognized and privileged networks of consulates, in major urban areas. Diplomacy plays out in the goldfish bowls of cities, under the watchful eyes of world, national and local media, all of whom also urban based.

The shift from rural to urban based economies and from rural to urban dwelling changes the character of politics and policies. The 22 Sep 2002 Countryside Alliance march on London attracted 400,000 people drawing attention to rural concerns<sup>14</sup>. In the organizers' view, Government policies were increasingly demonstrating an urban bias, with urban views of rural priorities becoming over-dominant. Within the EU, failure to achieve reform of the Common Agricultural Policy arouses annual concern. France, the major beneficiary of the policy, is unwilling (or, perhaps, domestically unable) to agree to change, yet the imminent accession of Poland, with a major agricultural economic dependency, will clearly break the existing scheme. Arguments between the UK and Spain over fishing quotas are thrashed out many miles from the fishermen whose livelihood depends on the outcome and usually end with governments expressing satisfaction while fishermen from both nations are bitterly disappointed. It is not unreasonable to suppose that increasing urbanization in the less developed world will result, over time, in a similar shift in focus.

Major cities also tend to house the gatherings of national intelligentsia that provide the backbone of the arts, the press and the rest of the media, big business, culture and political intrigue. The resultant intellectual hothouse becomes a center of national attraction, adding to the allure of the city, to the wealth generation it offers and to movement away from the rural life. Cities become places of great value and of great pride to their citizens; they are often the public face of their nation, absorbing large quantities of national resources.

The diplomatic instrument of power is largely focused on cities, their leaders and their inhabitants. Political power bases are almost exclusively urban in the developed world and becoming increasingly so elsewhere. The strategic impact of increasing urbanization over time is to increase the value and potential effect of good diplomacy and to exaggerate the effect of poor or failed diplomatic and political dialogue. Events in February and March 2003 in the Security Council of the UN and in the capitals of Europe and the US illustrate the increasing relevance of successful diplomacy; the failure to agree on a policy over Iraq caused transatlantic and NATO bridges to be severely scorched, if not altogether burnt. Even the shorthand routinely

used – Washington, Baghdad, London, Paris and Berlin – reflects the assumption that capital city and nation are synonymous.

## **INFORMATION**

If much has been written on the subject of the impact of urbanization on the informational instrument of power, it is very hard to find. What follows is essentially a hypothesis: that urbanization and information operations are already closely linked, and that future urbanization will only serve to tighten the link and make the acquisition and use of information more difficult.

Urban infrastructure, physical and social, is already complex and difficult to fathom. In the developed world cities will continue to evolve, with regeneration programs, improved transportation, changing lifestyles and pressure on resources tending to make them more sophisticated. This sophistication, technical and cultural, will be reflected in the mass media whose headquarters and audience will remain principally urban. Art, culture, entertainment, access to news and public knowledge will develop positively, at least in quantity if not in taste or quality! Centers of power - political, economic and diplomatic - are unlikely to rusticate themselves; today's urban hotbeds will simply get hotter. The means with which to exercise the informational instrument will develop but not drastically change. Business will continue largely as normal, only better.

In the developing world the picture is not quite the same. At one end, the powerful end, there will be little difference. The ways and means will be just as sophisticated and the social and cultural environments will be just as mature. It is the other end of the social scale that will have changed. Larger numbers, greater poverty, more crowding and greater separation top to bottom are likely to result in sub-cultures forming that will not be responsive to conventional information operations, benign or otherwise. This world will have its own norms, its own means of mass communication and rather different expectations. Cities will continue to have split personalities, leading to potential disconnects between government and people. Major cities that are not seats of government will be even harder to penetrate from an informational perspective. Even today the citizens of Los Angeles probably view world events through a somewhat different lens than those of Washington, D.C.. The people of Basra appear not to be convinced by the message of friendship aimed at them by Coalition information operations, despite its simplicity, apparent attractiveness and incessant repetition.

The most significant change is likely to rest with the media, who will arguably have developed a more sophisticated and independent real time information gathering capability. Commercial satellite imagery is already available; whether buying all available bandwidth will

remain a feasible counter-policy in 2020 is doubtful. It should be anticipated that global news companies will be flying their own surveillance aircraft with capability at least as good as today's best, reducing the current monopoly enjoyed by the U.S.. Whilst penetration of the urban jungle will be no easier for the media than the military, the media will reach into the darker corners of the city more quickly.

The informational instrument of power will thus become more important over time, as the consequences of exercising the military option become less acceptable to domestic audiences. This will be especially so in urban areas. The strategic impacts will be both positive and negative; the ability to mount strong information operations and resist those of an adversary will result in explicit strategic advantage. Conversely, the lack of ability to influence or resist influence will severely restrict strategic choice, potentially to the point of strategic paralysis.

## **THE MILITARY INSTRUMENT**

The most demanding, yet probable environment for conflict is likely to be urban.<sup>15</sup>

—NATO Land Operations 2020

It is the military implications of future urbanization that are likely to have the most significant strategic impact. Conventional wisdom has it that ground combat operations in an urban environment are difficult, bloody and result in high casualty rates for attacker and defender alike. Whether at the scale of Stalingrad in 1942, Mogadishu in 1993 or Grozny in 1995, combat in cities has indeed been characterized by high military casualty rates, excessive non-combatant death and seemingly indiscriminate collateral damage. Military men spend a good deal of time considering the problem, generating doctrine, tactics, techniques and procedures to reduce the risk and increase the effect of their forces so engaged. The issue is not solely one of ground forces. Erudite articles advocate the use of airpower<sup>16</sup> as an effective alternative. Some argue that urban terrain should be avoided, almost at all costs, while others propose new ways of operating. Most of this argument is focused at the tactical level, where the peculiarities of urban terrain demand different techniques than those needed in other complex terrain such as jungle or mountain. An expectation of tactical success is essential if the ability to conduct urban operations is to be considered part of the capability suite of any armed forces. Whether or not there is an increasing unwillingness of Western publics to accept casualties on the scale of Stalingrad, Berlin or Grozny, there is the very pragmatic problem of reduced numbers of troops available to be able to absorb high casualty rates. Improved technology, reduced strategic threat, pressure on national budgets and the changing expectations of society have caused all NATO countries to cut back the size of their armed forces, especially their land

forces. This has not led to acceptance, tacit or otherwise, that operations that in the past demanded massed infantry, for example, are no longer strategic options. On the contrary it has resulted in considerable efforts to improve the tactical capability to engage in combat operations in an urban environment.

The difficulties of the urban canyon<sup>17</sup>, with its extra above and below ground dimensions, the difficulty of seeing and communicating and the reduction of area influence by any one man gives momentum to technological and doctrinal development designed to reduce the risk and increase the effectiveness of the combat soldier. This leveling of the tactical playing-field is well recognized and is the subject of considerable development in the U.S., with the USMC as the lead Service. The tactical dilemmas should not be underestimated and tend to dominate development.

At the operational level, the most recent publication of note is the report of NATO's Research and Technology Study 035 into Urban Operations in the Year 2020<sup>18</sup>. The seven nation study group was made up of American, British, Canadian, Dutch, French, German and Italian soldiers and scientists. Prompted by the earlier Land Operations in the Year 2020 study quoted above, over a two year period it examined urban combat at the operational rather than tactical level, recognizing that there is a gap in NATO understanding. The report, published in 2002, is a very detailed record of method, research and findings.

In order to dissect the problem, the study developed a U.S. inspired paradigm to describe military operations, presenting Understand, Shape, Engage, Consolidate and Transition (USECT) as an operational framework. It argues that where traditional cold war operations emphasized Engage as the main effort, modern operations, particularly in urban terrain, will have to put the priority into Understand. At the operational level, particularly, commanders must have a full understanding not only of the adversary but also the urban environment, its infrastructure, population, energies and nodes.<sup>19</sup> The study also lays out a variety of operational 'ways' to conduct operations, ranging from destruction through siege to precision engagement. It identifies the critical capabilities required by a joint force commander to be able to conduct operations in a city and proposes generic technical capabilities ranked by military and technical attractiveness and technical feasibility<sup>20</sup>. High on the list are the systems aimed at improving understanding and achieving precision effect; included is a non lethal anti personnel system. The report also identifies areas in which development of doctrine, organization and training will improve NATO's combined capability. The most significant thrust of recommendations, both organizational and technical, is that means to improve 'understanding' at all levels are the key to successful urban operations in 2020. This focus on knowledge and precision at the operational

level is echoed in US development plans. Commander Joint Forces Command has been designated as the Pentagon's Executive Agent for joint urban operations and it is intended to create a Center for Joint Urban Operations this year, whose focus will be at the operational level.

Since the risk is so high, it is worth examining briefly why military operations should be undertaken in urban terrain at all. Arguably there are only three true reasons: the city itself, the population of the city or the action of an adversary:

A city may have campaign significance, political or military, of itself, perhaps as a national capital, as a national landmark or even as the root of dispute. It may contain religious or national treasures or its infrastructure may be militarily important. Modern ports and airfields, for example, tend to be surrounded by major conurbation. Routes may have to be closed or kept open, media centers too. It may be necessary to preserve or deny power, fuel, water or shelter. Whatever the specific reason, the decision to accord a city sufficient importance that military operations ensue will have strategic overtones at the very least. Take the case of Baghdad today. Since the March 2003 outbreak of war with Iraq, Baghdad's infrastructure has been a major strategic and operational factor; too much destruction risks alienating the Iraqi population. Its power sources are a necessity for its inhabitants yet probably vital to the successful prosecution of Iraqi defense. Destruction of its water distribution system will have a major effect on its non-combatant population and may therefore not be politically acceptable. A stated objective of regime change implies that the Allies would need to demonstrate that they are in charge of the capital city, which means military occupation for a short while at least. Whether an alternative government could be successfully established outside Baghdad, even with the current regime demonstrably overthrown, is debatable, but ought to be considered strategically as an option.

The population of a city may provide the second reason for military operations in urban areas, to be either defended or liberated. It need not be the whole population that drives an operation which might range from small scale non-combatant evacuation through defense of an oppressed minority to providing a secure environment for post-conflict restoration to be affected. Whatever the specific, preservation of the population is key, presenting the military planner with the inevitable conundrum – how to preserve life while conducting lethal combat operations. This conundrum has strategic impact, for lack of success (the cost of loss) may have a disproportionate effect on the outcome of a campaign. Although physical liberation of Baghdad's civilian population may not be necessary, what strategic choices will exist should a chemical event take place, by design or accident, that engenders mass casualties in its midst? How



would Coalition options be narrowed by concerted action by Saddam Hussein's regime against its own population within the capital city?

The third possible reason for military urban operations is the requirement to deal with an adversary who has chosen the city as his battleground. It may be necessary to close with and kill the enemy, it may be possible to force him to leave the city or the option might be to leave him there if in entering the city he has so 'fixed' himself that he poses no threat to populace, friendly forces or infrastructure. Received wisdom has it that a weaker opponent will choose urban terrain to negate his enemy's strength. Chechen fighters were certainly effective, at least in terms of relative casualties, in choosing to fight in Grozny rather than the surrounding countryside, although the Russian destructive reaction did little to preserve the fabric of the city itself. Continuing the Iraq example, should U.S. forces be risked to winkle out Iraqi troops who had withdrawn into Baghdad even after the overthrow of Saddam Hussein?

These three considerations should be seen as strategic rather than operational in nature, for they are indicative of the intent behind the use the military instrument of power. Each of them, too, is susceptible to pressure applied any of the instruments of national power.

## **ECONOMIC POWER**

In strategic terms, what are the economic impacts of future urbanization likely to be? Economic power is already centered in cities, in both developed and developing worlds. Of all the instruments of power, the economic is the hardest to exploit in an exclusive way. Financial tendrils encircle the globe today; economic interdependence is the norm. The U.S., for all its power, is economically dependent on oil suppliers, external raw material sources and outside markets. Thomas Friedman makes much of post cold war globalization and its binding effects on domestic and foreign policies. His Golden Arches Theory of conflict prevention<sup>21</sup> and his Five Gas Stations theory of the world<sup>22</sup> use images drawn from urban life to illustrate the omnipresence of commercial linkages. Economic well-being is a constant aim of most of the world's inhabitants and the majority of their political leaders. Economic activity, global economic activity, continues almost regardless of military, diplomatic or information operations.

Economic pressure has long been a strategic tool, from simple blockade to complex sanctions such as those applied to Iraq. But, as the Iraqi subversion of the means and intent of those sanctions demonstrates, the instrument has limitations. In urban areas it is reasonable to imagine that, as sanctions bite, the effects are first felt by the poorer and least able to resist rather than by the ruling class against whom the measures are primarily directed. The expectation is perhaps that sufficient deprivation will induce the under-privileged to revolt,

changing its leadership to one more open to economic persuasion. The reality is more often, as in Iraq, that tyrannical hold outlasts economic privation.

The economic instrument is arguably more effective when giving rather than withholding. Financial incentives are frequently more effective than economic or military threats, particularly when trying to secure alliance, co-operation or even just agreement not to interfere. At the strategic level, the economic instrument is directed at regimes and their national interests and should not be confused with aid, humanitarian or otherwise. In that regard, increasing urbanization is unlikely to change the perceived value, the validity or the viability of economic pressure to any great extent. The scale of effect of the use of economic power in 2020 is likely to vary according to the same parameters as it does today – the availability of national resources, the attractiveness of economic blandishments to the target audience and the range of alternatives.

## **CONCLUSIONS**

The change in global urbanization over the next 20 years is a serious issue that deserves attention from national policy makers. The scale, particularly in the developing world, will affect political and cultural climates. Increasing urban density, overcrowding and the shift from rural to urban living will put pressure on already scarce resources. This will lead to greater friction, the right conditions for conflict to erupt and the opportunity for catastrophic failure of city or state. In the developed world, the relatively static state of urban development suggests that an equilibrium has been found between urban and rural dwelling. Some degree of urban renewal can be expected and it is not unreasonable to expect urban life to increase in complexity and sophistication. Change will be gradual in the developed world but rapid elsewhere. Unless close attention is paid and due precaution observed, western decision makers risk being strategically constrained in their choice of instrument.

The impacts on the diplomatic, informational and economic instruments of national power are not dramatic, but rather indicate a steadily deepening complexity, with ever more interdependence between them. Continuing globalization will continue to be energized from within great cities as well as national capitals and will serve to make strategic decisions more complex, with greater difficulty in defining, separating and pursuing national interests. Diplomacy will remain a major instrument and will still be exercised principally in cities, at the centers of national and international power. Information will remain critical. As cities become larger and more complex, so total knowledge will be harder to extract. Target audiences for

national information campaigns will not change very much in nature, as power centers will not move, but getting the message to the general populace will have a new dimension.

It is on the freedom to use the military instrument that the greatest impact will be felt. Urban combat, already difficult, will take place in denser, more complex terrain, with a greater number of non-combatants present and under the full glare of the world's media. Changing social norms will continue to restrict developed countries' willingness to take casualties. Improved tactical capability and better operational understanding will make strategic decisions easier. Some of this increase in capability will come from better equipment, sharper precision and innovative doctrine. The need for nation building and law enforcement capability, neither of which are traditional military tasks, will also complicate the military option.

Based on what we are seeing in Iraq, that experience will reinforce perceptions that the way to negate technological military superiority is by forcing such opponents into urban combat, either to impose a military defeat or, more likely, to add pressure to an informational and diplomatic effort to relieve overwhelming military pressure. With increasing urbanization in those areas of the world most likely to be the scene of future conflict, the U.S. and the West must retain the capability and will to be successful in applying all its elements of national power, especially the military, in cities.

Perhaps the last word in considering the impact of urbanization on strategic choice should rest with General Charles Krulak, Commandant of the U.S Marine Corps:

"The future is not the son of Desert Storm but the stepchild of Somalia and Chechnya."

WORD COUNT = 7807

## ENDNOTES

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- <sup>15</sup> NATO Research and Technology Organization, "Land Operations in the Year 2020" RTO-TR-8 AC/323(SAS)TP/5. Available from <[ftp://ftp.rta.nato.int/pubfulltext/rto/tr/rto-tr-008/\\$\\$tr-008-all.pdf](ftp://ftp.rta.nato.int/pubfulltext/rto/tr/rto-tr-008/$$tr-008-all.pdf)>. Internet. Accessed 3 January 2003, page 58.

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<sup>17</sup> Rand Corporation. Ready for Armageddon: Proceedings of the 2001 Rand Arroyo-Joint ACTD-CETO-USMC Nonlethal and Urban Operations Program Urban Operations Conference (Santa Monica, CA: Rand, 2002)

<sup>18</sup> NATO Research and Technology Organization, "Report by the RTO Study Group SAS-030 on Urban Operations in the Year 2020." Available from <[ftp://ftp.rta.nato.int/pubfulltext/rto/tr/rto-tr-071/\\$sas-tp35-report.pdf](ftp://ftp.rta.nato.int/pubfulltext/rto/tr/rto-tr-071/$sas-tp35-report.pdf)>. Internet. Accessed 3 January 2003.

<sup>19</sup> Ibid., 20.

<sup>20</sup> Ibid., 97.

<sup>21</sup> Thomas L. Friedman, The Lexus and The Olive Tree (New York: Farar, Straus and Giroux 1999), 195.

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